

Spray Drift From Chemigation Applications

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Spray Drift Task Force

- Consortium of pesticide registrants
- Formed in response to EPA data requirements
- Supports registration of more than 2,000 products



Purpose of the SDTF Studies

- Quantify drift from ground, aerial, airblast and chemigation
- Use for risk assessments



Spray Drift is not Active Ingredient Specific

- Formulation/tank mix have small effect - but not the active ingredient itself
- Droplet size spectrum and height are the major variables
- Wind speed next, then less impact of relative humidity, application speed and non-volatile fraction

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Spray Drift vs. Vapor Drift

- SDTF measure primary spray drift
- SDTF = movement of droplets and is generic
- Vapor drift = movement of gas and is product-specific



EPA Scientific Review



The information being presented is not an in-depth presentation of all data generated by the SDTF.

Use of pesticide products is strictly governed by label instructions.

Always read and follow the label directions.



What do the SDTF findings tell us?

- Confirm and quantify the factors affecting drift
- Droplet size is the most important factor
- Drift only occurs downwind
- Cannot totally eliminate drift with current technology
- There are many ways to minimize drift
- Most of the spray stays on target



Objective

Develop a generic database for evaluating a range of:

- Application combinations
- Atmospheric conditions



Factors Affecting Drift in Chemigation Applications

- Sprinkler height
- Wind speed
- End guns



Test Location



Washington

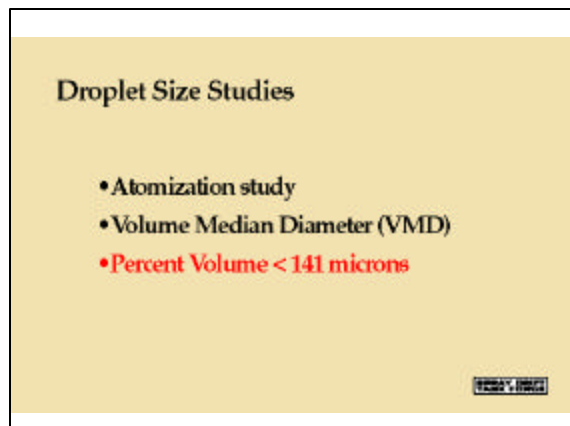
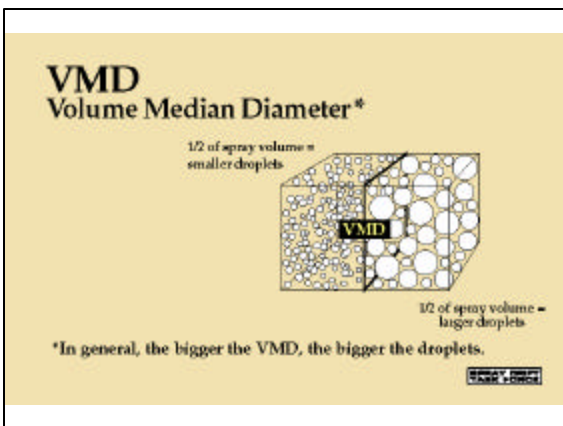
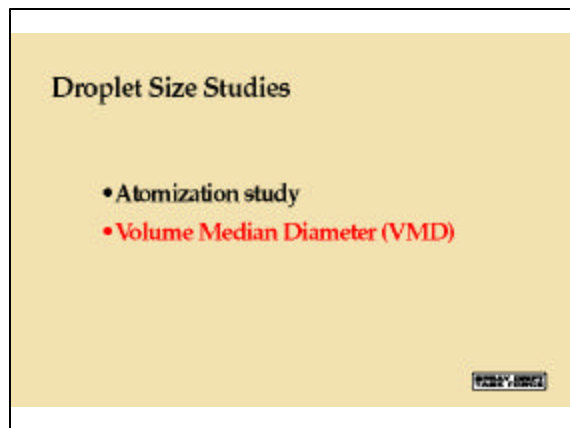
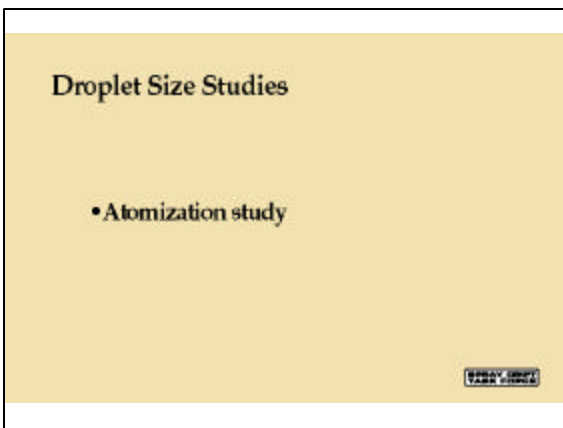
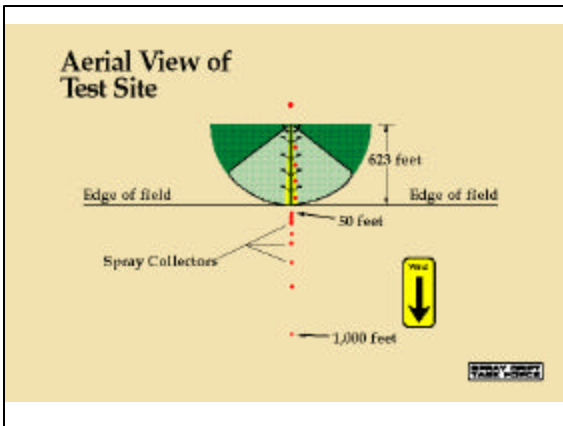


Center Pivot Chemigation System



Radius:	623 feet
Area of Circle:	28 acres
Area Treated:	7.0 acres
Duration of Application:	90 minutes
Application Rate:	0.1 inches per acre





Test Application Variables

	System Type*	
	High Pressure	Low Pressure
Pressure:	70 psi	20 psi
Sprinkler height:	12 feet	5 feet
Sprinkler type:	Impact	rotary-splanner
Volume <141 microns:	0.35%	1.3%
Volume Median Diameter: (VMD)	3,006 μm	1,690 μm

* With and without an end gun.

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Typical Chemigation Application

High pressure system
(with an end gun)
160 acre field
5 mph wind



FAIRPLAY-ORCA

SDTF Control Application

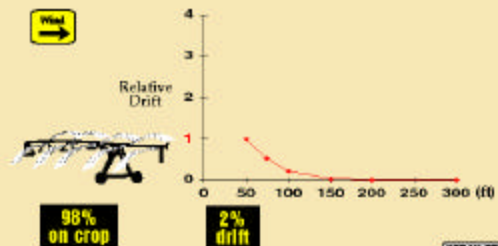
High pressure system
(with an end gun)
40 acre field
5 mph wind



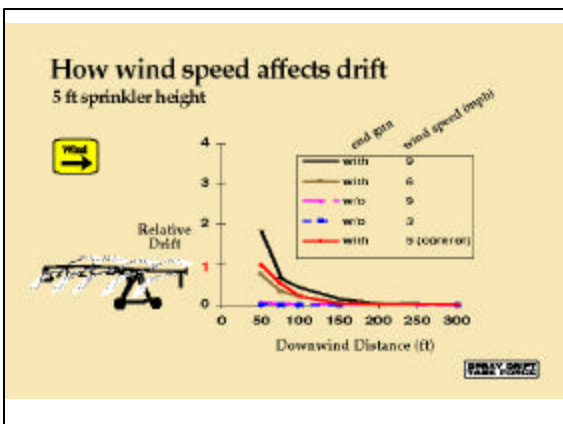
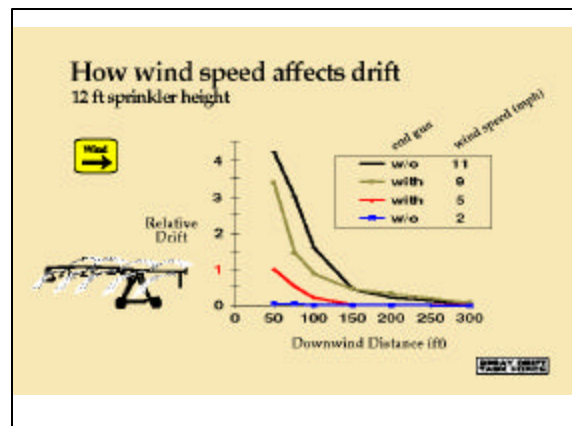
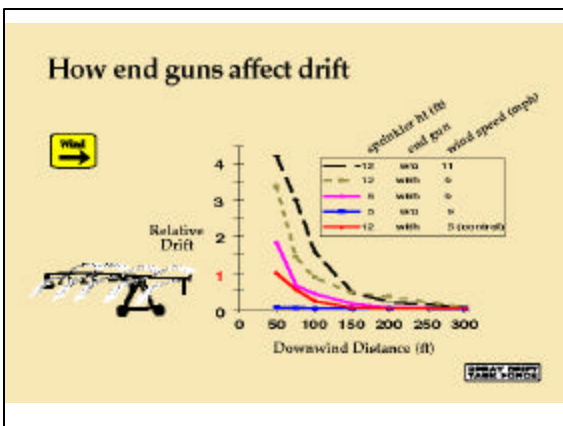
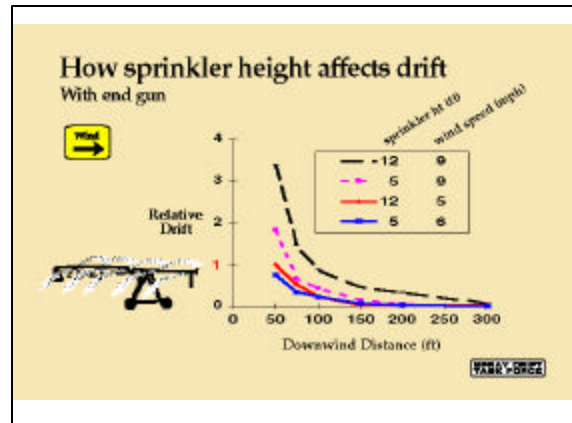
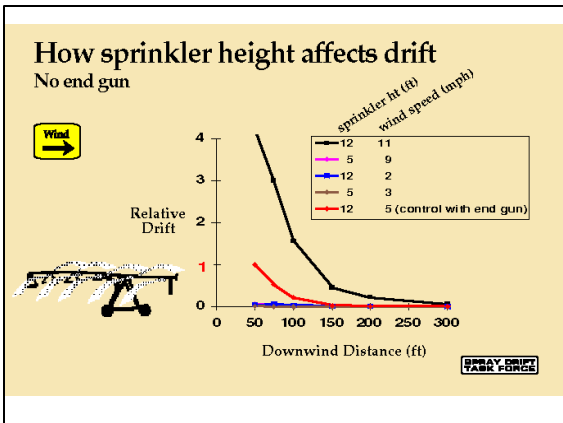
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Drift from the SDTF Control Application

1.0 = 0.2 oz per acre



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Conclusions

Factors Affecting Drift in Chemigation Applications:

- Sprinkler height
- Wind speed
- End guns

SPRAY-DRIFT
FABR-DRIFT

SDTF Data Will Be Used For Environmental Risk Assessments

- Active ingredients have very little affect on drift
- Active ingredients differ in potential for environmental effects
- Buffer zones can protect sensitive areas
- Buffer zones are upwind and adjacent to the sensitive areas

Source: EPA